In[1]:=
```
Series[Exp[(-x^4)+(x^3)+(-x^2)], {x, 0, 8}]
```

Out[1]=
$$1 - x^2 + x^3 - \frac{x^4}{2} - x^5 + \frac{4\,x^6}{3} - \frac{x^7}{2} - \frac{11\,x^8}{24} + O[x]^9$$

In[2]:=
```
Roots[(x^4)+(3*x^3)+(-3*x^2)+10 == 0, x]
```

Out[2]=
$$x == \frac{1}{2}\left(-5 - \sqrt{5}\right) \,||\, x == \frac{1}{2}\left(-5 + \sqrt{5}\right) \,||\, x == 1 - i \,||\, x == 1 + i$$

In[3]:=
```
f[x_] := (x^3)*(Log[x])+ Cosh[x]
f'''[x]
```

Out[4]=
$$11 + 6\,\text{Log}[x] + \text{Sinh}[x]$$

In[1]:=
```
NIntegrate[Sqrt[1-x],{x,0,1}]
```

Out[1]=
```
0.666667
```

```
A = {{1, 2, 3}, {4, 5, 8}, {3, 2, 1}}
Inv = Inverse[A] // MatrixForm
```

Out[9]//MatrixForm=
$$\begin{pmatrix} -\frac{11}{8} & \frac{1}{2} & \frac{1}{8} \\ \frac{5}{2} & -1 & \frac{1}{2} \\ -\frac{7}{8} & \frac{1}{2} & -\frac{3}{8} \end{pmatrix}$$

In[3]:=
```
s = NDSolve[{y''[t] == -(Pi^2)*(y[t]+1)/4, y[0] == 0, y[1] == 1}, y, {t, 0, 5}]
Plot[Evaluate[y[t] /. s], {t, 0, 5}]
```

Out[3]=
$$\left\{\left\{y \to \text{InterpolatingFunction}\left[\right]\right\}\right\}$$

Domain: {{0., 5.}}
Output: scalar

Out[4]=